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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,846	08/22/2003	Se Jun Heo	1670.1013	8145

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WASHINGTON, DC 20005

EXAMINER

COLON, GERMAN

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b> 10/645,846	<b>Applicant(s)</b> HEO ET AL.	
	<b>Examiner</b> German Colón	<b>Art Unit</b> 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/26/03</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8, 10-11, 17-20 and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Tadokoro et al. (EP 1 022 931).

Regarding claims 1, 17 and 22, Tadokoro discloses an EL display device and a method of making the same, comprising (see Fig. 6):

a substrate **1**;

a first electrode unit comprising:

first electrodes **21(2)** formed on the substrate in a predetermined pattern, and

first electrode terminals **22(2)** connected to the respective first electrodes;

a second electrode unit comprising:

second electrodes **6** formed on the first electrodes; and

second electrode terminals **24(2)** connected to the respective second electrodes;

an emission area formed where the first electrodes intersect the second electrodes;

an EL layer **5** disposed between the first and second electrodes;

an outer insulating layer **4** between the emission area and the second electrode terminals;

wherein the outer insulating comprises an insulating material formed to contact at least an edge of the second electrode terminals facing the emission area.

Regarding claims 2, 3, 18 and 23, Tadokoro discloses an inter insulating layer **4** provided under the EL layer and covering and defining a space between each of a plurality of lines of the first electrodes (see Fig. 6 in view of Fig. 2).

Regarding claim 4, Tadokoro discloses the substrate comprising glass (see Col. 6, lines 3-4).

Regarding claim 5, Tadokoro discloses the second electrode terminals comprising a first terminal portion **24(2)** made of ITO, and a second terminal portion **3** made of Cr (see paragraph [0031]).

Referring to claim 6, Tadokoro discloses the first electrode terminals being integrally formed with the first electrodes (see Fig. 6 in view of Figs. 3(A)-3(D)).

Referring to claims 7-8 and 19-20, Tadokoro discloses the outer insulating layer covering the edge of each of the second electrode terminals facing the emission area (see Fig. 6 in view of Fig. 2).

Referring to claims 10-11, Tadokoro discloses the second electrodes passing over and covering the outer insulating layer to contact the second electrode terminals (see Fig. 6).

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 9, 15, 16 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadokoro et al. (EP 1 022 931) in view of Okuyama et al. (US 6,531,815).

Referring to claims 9 and 24, Tadokoro discloses the claimed invention except for the limitation of via holes formed at portions of the insulating layer covering the edge of the second electrode terminal.

However, in the same field of endeavor, Okuyama discloses an EL device (see Figs. 3B and 6B) including an insulating layer **PLN2** comprising via holes so electrodes are connected to a terminal through said via holes, and teaches this embodiment to provide a connection having a substantially wide width, which lowers the resistance (see at least Col. 9, lines 35-36). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form via holes at portions of the insulating layer in order to provide a connection having a substantially wide width, which lowers the resistance. Further, it has been held to be within the level of ordinary skill in the art to vary the shape of a component, i.e. forming via holes.

In regards to claims 15 and 16, Tadokoro discloses the claimed invention except for the limitation of a second buffer layer provided over a top surface of the substrate.

However, in the same field of endeavor, Okuyama discloses an EL device comprising a buffer layer including SiO<sub>2</sub> disposed over a top surface of a substrate with the purpose of acting as a stopper against impurities eluted from the glass substrate (see Col. 12, lines 1-5). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a buffer layer over the substrate, in order to prevent impurities from the substrate to reach the EL element.

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5. Claims 12-14, 21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadokoro et al. (EP 1 022 931).

Regarding claims 12-14, Tadokoro discloses the claimed invention except for the limitation of forming a first buffer layer insulated from the first electrodes and the second electrode terminals. Tadokoro discloses a dielectric layer 4 reducing a steepness of a step between the second electrode terminals and the substrate.

However, Tadokoro discloses a method of forming an EL layer wherein the substrate is coated with a conductive layer comprising ITO, said layer being patterned into first electrodes, first electrode terminals and second electrode terminals. Tadokoro further discloses to apply a dielectric layer to insulate the respective patterns. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to leave an insulated pattern of the ITO layer between the first electrodes and the second electrode terminals in order to reduce the amount of material that is wasted in the manufacture of the device, and reducing the amount of dielectric material which is needed to accomplish the steepness reduction step of Tadokoro, resulting in a manufacture cost reduction of the device.

Claims 21 and 25 are rejected over the reasons stated in claims 12-14.

#### ***Contact Information***

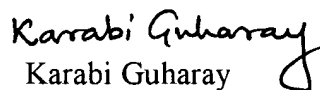
Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Colón whose telephone number is 571-272-2451. The examiner can normally be reached on Monday thru Thursday, from 8:30 to 6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
gc

  
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